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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,145	07/10/2000	HIROKI NAKAHARA	9319S-000137	7749

7590 10/17/2003

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EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/600,145

Applicant(s)

NAKAHARA ET AL.

Examiner

Thoi V Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the RCE, Paper No. 15, filed July 28, 2003.

Accordingly, claims 1, 4 and 7 were amended. Currently, claims 1-16 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 56-20927 (JP'927) in view of Kobayashi (USPN 5,959,713).

As shown in Figs. 1a and 1b, JP'927 discloses a liquid-crystal display apparatus, comprising:

a first substrate 5 having:

a first substrate terminal 7 located adjacent to a first edge of said first substrate, and a first electrode pattern 6 electrically connected to said first substrate terminal and which is arranged so as to extend from said first substrate terminal toward a second edge of said first substrate opposing said first edge;

a second substrate 1 having:

a first input terminal 9 located adjacent to a first edge of said second substrate,

a second substrate terminal 8 formed at a central portion of said edge, and electrically connected to said first input terminal 9 and arranged so as to extend inboard from said first input terminal 9 along said second substrate,

a second input terminal 4 located adjacent to said first edge of said first substrate and having a first portion flanking one side of said first input terminal 9 and a second portion flanking another side of said first input terminal 9, and

a second electrode pattern 2, electrically connected to said second input terminal 4, and

a sealing member 10;

wherein said first substrate 5 and said second substrate 2 are located in an opposed manner through said sealing member so that said first electrode pattern 6 and said second electrode pattern 2 intersect with each other;

wherein said first substrate terminal 7 and said second substrate terminal 8 are electrically connected to each other with a conductive material 13 between said first and second portions of said second input terminal 4 (or sandwiched between said first substrate and said second substrate); accordingly, said electrical conduction of said first and second substrate terminals is performed at said central portion (or said electrical connection is between portions of said second electrode pattern 2 flanking said second substrate terminal 8) (see Fig. 1a); and

wherein said first substrate terminal 7 for conduction between substrates and said second substrate terminal 8 for conduction between substrates linearly extend toward said second edges of said first and second substrates.

JP'927 discloses a liquid-crystal display apparatus that is basically the same as that recited in claim 4 except for a sealing member having a conductive material and a driving IC. As shown in Figs. 3 and 4, Kobayashi discloses a liquid-crystal display apparatus comprising a first substrate terminal 8 and a first electrode pattern formed on a first substrate 1; and a first input terminal 12, a second electrode pattern 7a and a second substrate terminal 21 formed on a second substrate 2,

wherein a driving IC 13 is mounted on the second substrate, said driving IC has an input terminal electrically connected to said first input terminal, and an output terminal 11 electrically connected to said second terminal for conduction between substrates and said second electrode pattern;

wherein said first substrate terminal 8 and said second substrate terminal 21 are electrically connected to each other by a sealing member 3 having a conductive material 31 sandwiched between said first substrate and said second substrate as shown in Fig. 7 (col. 6, lines 6-35); and

wherein image data is supplied to said first electrode pattern, and a scanning signal is supplied to said second electrode pattern (col. 6, lines 36-46).

As known in the art, due to increasing the density of the liquid crystal element, driving ICs are used in a so-called COG technology to constitute the complicated circuits in the display. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid-crystal display apparatus of JP'927 with the teaching of Kobayashi by forming a sealing member having a conductive material and employing a driving IC mounted on the second substrate, and

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arranging wiring pattern such that said driving IC has an input terminal being electrically connected to the first input terminal 9, and an output terminal being electrically connected to the second substrate terminal 8 so as to simplify the fabrication process as well as the circuits of the display.

Response to Arguments

4. Applicant's arguments filed 07/28/2003 have been fully considered but they are not persuasive. This office action is relied on JP'927 and US 5,959,713. The JP'623 is not considered at this time.

Applicant argued that JP'927 does not teach that the first substrate terminal and the second substrate terminal are electrically connected to each other with a conductive material between the first and second portions of the second input terminal. The Examiner disagrees with the Applicant's remarks because, as clearly shown in Figs. 1a and 1b, JP'927 discloses that the first substrate terminal 5 and the second substrate terminal 2 are electrically connected to each other with a conductive material 13, wherein said conductive material 13 connects together the first substrate terminal 7 and the second substrate terminal 8 which is formed between the first and second portions of the second input terminal 4 (portions at left and right of the first input terminal 9) or at the center portion of the second substrate 1. Accordingly, the conductive material is to be provided between the first and second portions of the second input terminal for electrical connection between two substrates. It is also noted that, as clearly shown in Fig. 1a, the second substrate terminal 8 is connected to the first input terminal 9 to provide signal to the first electrode pattern 6 formed on the first substrate 5 and the

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second input terminal 4 on both sides of said first input terminal 9 is connected to the second electrode pattern 2 formed on the second substrate 1.

Conclusion


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong



10/09/2003



T. Chowdhury
Primary Examiner